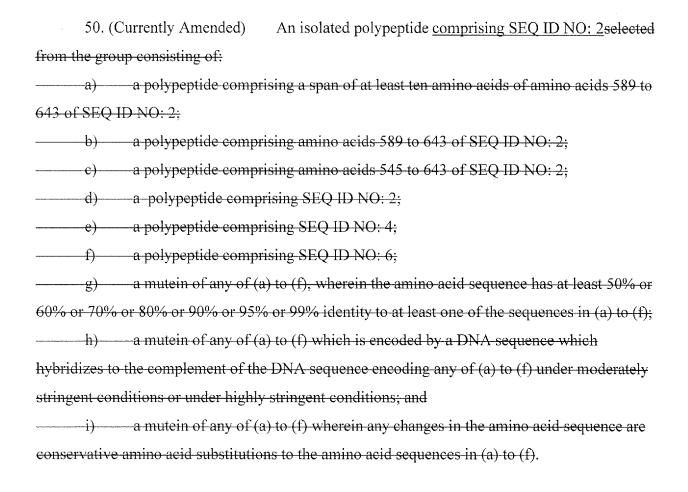
In the Claims

1-49. (Canceled)



- 51. (Currently Amended) The polypeptide according to claim 50, wherein said polypeptide is capable of binding binds to the By subunit of the PP2A phosphatase.
- 52. (Currently Amended) A potassium channel An isolated potassium channel comprising at least one polypeptide comprising SEQ ID NO: 2 of claim 50.

- 53. (Currently Amended) The <u>isolated</u> potassium channel according to claim 52, wherein said potassium channel is a homomeric channel-comprised of polypeptides of claim 50 comprising a plurality of polypeptides.
- 54. (Currently Amended) A purified polynucleotide encoding the polypeptide of elaim 50 SEQ ID NO: 2, or a polynucleotide <u>fully</u> complementary thereto.
- 55. (Currently Amended) The polynucleotide according to claim 54, wherein said polynucleotide comprises SEQ ID NO: 1 or a polynucleotide fully complementary thereto is selected from the group consisting of:
- a) a polynucleotide comprising nucleotides 1776 to 1929 of SEQ ID NO: 2.
- b) a polynucleotide comprising nucleotides 1632 to 1929 of SEQ ID NO: 2.
- e) a polynucleotide comprising SEQ ID NO: 1,
- d) a polynucleotide comprising SEQ ID NO: 3,
- e) a polynucleotide comprising SEQ ID NO: 5,
- f) a polynucleotide complementary to the polynucleotides of (a) to (e).
- 56. (Previously Presented) An expression vector comprising the polynucleotide of claim 54.
- 57. (Previously Presented) The expression vector according to claim 56, wherein said vector is a gene therapy vector.
 - 58. (Previously Presented) A host cell comprising the expression vector of claim 56.
- 59. (Previously Presented) A method of making a polypeptide, said method comprising the steps of culturing a host cell according to claim 58 under conditions suitable for the production of a polypeptide.

60. (Previously Presented) The method according to claim 59, further comprising the step of purifying said polypeptide from the culture.

61. (Canceled)

- 62. (Currently Amended Withdrawn) A method of screening candidate compounds for a modulator of the KCNQ2 polypeptide comprising the steps of:
 - a) contacting a KCNQ2 polypeptide <u>comprising SEQ ID NO: 2 with a with the</u> candidate compound; and
 - b) testing the activity of said KCNQ2 polypeptide in the presence of said candidate compound,

wherein a difference in the activity of said KCNQ2 polypeptide in the presence of said compound in comparison to the activity in the absence of said compound indicates that the compound is a modulator of said KCNQ2 polypeptide.

63. (Withdrawn) The method according to claim 62, wherein said candidate modulator compound is selected from the group consisting of a natural ligand, a small molecule, an antibody, an antisense RNA, an aptamer and a short interfering RNA.

64-86. (Canceled)

- 87. (New). A composition comprising at least one polypeptide comprising SEQ ID NO: 2.
- 88. (New) The composition according to claim 87, wherein said composition comprises a plurality of polypeptides.
- 89. (New) The composition according to claim 88, wherein said plurality of polypeptides forms a potassium channel.